



# Report on Transition Finance

**By Expert Committee on Climate Finance**



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## 1. Abbreviations and Acronyms

<b>Abbreviations</b>	<b>Definition</b>
ADB	Asian Development Bank
AIF	Alternate Investment Fund
ASEAN	Association of Southeast Asian Nations
AUM	Asset Under Management
BRSR	Business Responsibility and Sustainability Reporting
CBI	Climate Bond Initiative
CCFD	Carbon Contract for Difference
CCUS	Carbon Capture, Utilisation and Storage
CEEW	Council on Energy, Environment and Water
CEO	Chief Executive officer
CGM	credit guarantee mechanism
CGTSME	Credit Guarantee Fund Trust for Micro and Small Enterprises
CO <sub>2</sub>	Carbon dioxide
CPI	Climate Policy Initiative
CSR	Corporate Social Responsibility
DBS	Development Bank of Singapore
DFI	Development Financial Institution
ECA	Export Credit Agencies
ECB	External Commercial Borrowings
EMDEs	Emerging Markets and Developing Economies
ESCO	Energy Service Company
ESG	Environmental, Social and Governance
EU	European Union
EY	Ernst and Young
FCDO	Foreign, Commonwealth & Development Office
FCRA	Foreign Contribution Regulation Act
FI	Financial Institutions
FLDG	First Loss Default Guarantee
GBP	British pound sterling
GCF	General Collateral Financing

<b>Abbreviations</b>	<b>Definition</b>
GFANZ	Glasgow Financial Alliance for Net-Zero
GGEF	Green Growth Equity Fund
GHG	Greenhouse gases
GIFT	Gujrat International Financial Tech-city
GSS+	Green, Social, Sustainable, Sustainability-linked and transition labelled
ICM	Indian Carbon Market
ICMA	International Capital Markets Association
IEA	International Energy Agency
IFC	International Finance Corporation
IFSC	International Financial services centres
IFSCA	International Financial services centres Authority
INR	Indian Rupee
IPCC	Intergovernmental Panel on Climate Change
IRDAI	Insurance Regulatory and Development Authority
IREDA	Indian Renewable Energy Development Agency
ISDA	International Swaps and Derivative Association
IT	Information Technology
JSW	Jindal Steel Works
KPI	Key Performance Indicators
LC	Letter of credit
LMA	Loan Market Association
MAS	Monetary Authority of Singapore
MD	Managing Directors
MDB	Multilateral development banks
MLI	Member lending institutions
MOEFCC	Ministry of Environment, Forest and Climate Change of India
MoF	Ministry of Finance
MW	Megawatt
NCGTC	National Credit Guarantee Trustee Company
NIIF	National Investment and Infrastructure Fund
NSE IFSC	National Stock Exchange- International Financial Service Centre

<b>Abbreviations</b>	<b>Definition</b>
NZE	Net Zero Emissions
OECD	Organisation for Economic Cooperation and Development
PCG	Partial Credit Guarantee
PE	Private Equity
PPF	Project Preparatory Facility
PRI	Principles for Responsible Investment
PRSF	Partial Risk Sharing Facility
RBI	Reserve Bank of India
RD&D	Research, Development and Demonstration
RE	Renewable Energy
SDF	Steel Development Fund
SDGs	Sustainable Development Goals
SEBI	Securities and Exchange Board of India
SLB	Sustainability-Linked Bonds
SLD	Sustainability- Linked Derivative
SLL	Sustainability-linked Loans
SME	Small and Medium Enterprises
TA	Technical Assistance
TPI	Transition Pathway Initiative
TRL	Technology readiness level
TSC	Technical Screening Criteria
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
USD	United States Dollar
USICEF	US-India Clean Energy Finance
VC	Venture capital
VGf	Viability Gap Funding
WTE	Waste to Energy

## 2. Letter from Chair to Chairperson, IFSCA

India stands at a critical juncture with the challenging task of mobilizing climate finance estimated over USD 10 trillion by 2070 to achieve its net-zero ambitions and at the same time ensure economic growth and well-being of its citizens. Therefore, India needs to convert the challenge of low carbon/net zero transition into an opportunity for green growth.

As the world grapples with the climate crisis and recognizes the seriousness of the threat, there is an urgent need for coordinated action to mobilize substantial international financial resources for climate investments in India. IFSCA constituted an Expert Committee on Climate Finance with a focus on low carbon transition sector and activities and also for developing IFSC-GIFT City into a global climate hub for the region.

This report on Transition Finance with inputs from the Expert Committee is a timely and pivotal contribution which underscores the need for aligning financial flows with the objectives of the Paris Agreement and other global climate commitments. As we endeavour to limit global temperature rise to 1.5 degrees Celsius, the mobilization of transition finance becomes not just a strategic imperative but a moral responsibility and ensuring a sustainable future for generations to come.

The report captures the recommendations by the Expert Committee under its three pillars: 1. Scope and definition of Transition Finance, 2. Policy and Regulation, 3. Financial Mechanisms and Instruments. The report emphasizes the role of transition finance in driving investments towards hard-to-abate sectors which are crucial for economic growth, and facing technical and economic challenges in decarbonization. By exploring global best practices and regulatory landscapes, the report offers strategic recommendations by the Expert Committee to enhance the role of GIFT-IFSC as a conduit for attracting international capital, crucial not only for India's climate objectives but also for furthering sustainable development in India and the region.

I commend the contributors for their comprehensive analysis and recommendations presented in this report. The Expert Committee hopes that this report serves as a catalyst for informed dialogue and drives action among policymakers, financial institutions, and stakeholders across the globe, as we collectively strive towards a resilient, low-carbon future.



Dr. Dhruba Purkayastha  
Chairperson, Climate Finance Committee, IFSCA  
Director, Council on Energy Environment and Water (CEEW)  
01 July 2024



### 3. Committee Formation

As per the sixth assessment report from the Intergovernmental Panel on Climate Change (IPCC), climate change “has caused widespread adverse impacts and related losses and damages to nature and people,” and that projected “mid- and long-term impacts are up to multiple times higher than currently observed.” To mitigate the impact of climate change, it is essential to limit the global temperature rise to 1.5 degree Celsius. In order to limit the average global temperature, there is a need to implement decarbonization measures that can bring substantial reductions in emission intensity across geographies and sectors, particularly, energy intensive and hard-to-abate sectors.

As per the report submitted by the UN High-Level Climate Action Champions, USD125 trillion of climate investment is needed by 2050 to meet net zero target. According to a report by the Council on Energy, Environment and Water (CEEW) India would need to mobilise investments worth over USD10 trillion to achieve its net-zero commitments. The Green, Social, Sustainable, Sustainability-linked and transition labeled (GSS+) debt securities have seen incredible growth in recent years. According to Climate Bond Initiative (CBI) report, as on Q3, 2023, cumulative listing of GSS+ bonds stood at USD 4.3tn.

However, the mobilization of funds towards climate actions has been restricted to certain sectors which are already at near-zero or low carbon emissions. The need of the hour is to cover all sectors, especially hard-to-abate sectors. This gap is currently not being met with the existing GSS+ labelled bonds. In this context, transition finance instruments such as transition bonds, transition loans etc. have emerged as an alternative to fill this financing gap. Taking into consideration the critical need for transition finance, the development of such financing instruments being at a nascent stage, and lack of globally recognized framework, IFSCA has constituted an Expert Committee on Climate Finance with special focus on transition.

#### **Terms of References of the Committee**

- i. To assess the trends in climate financing across the world, identify best practices and assess requirement of climate Finance with special focus on transition in India by 2047.
- ii. To recommend a regulatory framework for transition finance instruments utilizing the IFSCA draft framework as a starting point.
- iii. To recommend policy measures by Government of India in order to promote transition finance from GIFT IFSC, including legal, taxation, regulatory etc.
- iv. To advise IFSCA on the approach to developing a reliable and cost-effective ecosystem for transition finance meeting needs of Indian industry.
- v. To provide a roadmap and timelines for IFSCA to develop climate finance ecosystem and instruments at GIFT IFSC.

- vi. To recommend policies and regulations for establishment of GIFT-IFSC as the global hub for climate financing, as deemed fit by the committee.

### Committee Members

Sr. No	Name	Designation	Capacity
1	Mr. Dhruba Purkayastha	Director - Growth and Institutional Advancement, CEEW	Chair
2	Mr. Shalabh Tandon	South Asia Head of Operations & Climate, IFC (World Bank Group)	Member
3	Mr. Prabodha Acharya	Chief Sustainability Officer, JSW Group	Member
4	Mr. Gaurav Bhagat	MD & Head of Financial Institutions, South Asia, MUFG	Member
5	Mr. Gagan Sidhu	Director, CEEW-Centre for Energy Finance	Member
6	Mr. Piyush Jha	Head, Climate and Sustainable Finance, Tata Steel Limited	Member
7	Ms. Neha Kumar	Head, South Asia Programme, Climate Bonds Initiative	Member
8	Ms. Roopa Satish	Country Head, Sustainable Banking & CSR, IndusInd Bank	Member
9	Mr. Ajay Sirikonda	Partner, EY	Member
10	Mr. V Balasubramaniam	MD & CEO, NSE IFSC Limited	Member
11	Mr. Saurabh Chakravarty	Head Treasury, Ultra Tech Cement	Member
12	Mr. Hemal Mehta	CFO, Edelweiss Alternative Asset Advisors ltd	Member
13	Mr. Jagjeet Sareen	Partner, Global Climate Practice, Dalberg Advisors	Member
14	Mr. Abhilash Mulakala	General Manager, IFSCA	Member Secretary



## 4. Approach of the Committee

The Committee was tasked with the overall aim of expanding offerings – both in terms of instruments and sectors in which investments can flow. It had to keep in mind that IFSCA also caters to foreign investors which could be through Indian Banking, Financial services, and Insurance (BFSI) entities. With this mandate, the overall work and the committee were structured into 3 sub-groups:

- a) Scope and Definition,
- b) Policy and Regulation, and
- c) Financial Instruments

The first component is the scope and definition aspect since this will allow guardrails to be put in place and also give confidence to investors.

The second component helps build a regulatory framework that IFSCA can implement, and also provides policy recommendations to GoI on how transition finance can be mobilized through IFSC more efficiently and effectively.

The third component comprising market and institutional interventions, not only looks at the development of new products – on both assets and liabilities – but also at ways of designing pilot transactions, thereby giving banks and FIs more confidence in adopting the new product offerings.

The objectives of each of the above sub-groups are:

- a) Scope and Definition - Establish scope and definition for transition finance.
- b) Policy and Regulation - Provide policy and regulatory recommendations feeding into a regulatory framework document.
- c) Financial Instruments - Identify market and institutional interventions required.

## 5. Acknowledgment

The Committee wishes to express its profound gratitude to Mr. K. Rajaraman, Chairperson of IFSCA, for establishing the expert committee on Climate Finance. His vision has provided an exceptional platform for members to engage in thorough discussions and formulate actionable recommendations for developing a regulatory framework on transition finance in GIFT IFSC.

We are deeply appreciative of Mr. Pradeep Ramakrishnan, Executive Director of IFSCA, for his exemplary leadership of this initiative. Mr. Ramakrishnan's unwavering support was crucial to the successful functioning of the committee throughout our deliberations.

Our sincere thanks go to Ms. Neha Khanna for her invaluable contributions. Her support to the committee chair was pivotal in ensuring the seamless operation and progress of our work.

The committee also recognizes the significant support provided by Mr. Rajesh Kumar Miglani, Ms. Aditi Bhatia, Ms. Esha Sar, Ms. Upasana Handa, Mr. Dharmesh Tejani, Mr. Subahoo Chordia, Mr. Mayank Thukral, Mr. Rawson Gonsalves, and Mr. Dishant Rathee. Their insights and assistance were invaluable to our efforts.

Lastly, we extend our heartfelt appreciation to the entire IFSCA Sustainable Finance team, including Mr. Abhilash Mulakala (GM), Mr. Chintan Panchal (Manager), and Mr. Abhineet Panwar (AM). Their coordination and extensive support were instrumental in the finalization of our recommendations.

Dhruva Purkayastha

Gagan Sidhu

Shalabh Tandon

Neha Kumar

Gaurav Bhagat

Piyush Jha

Roopa Satish

Ajay Sirikonda

V Balasubramaniam

Prabodha Acharya

Saurabh Chakravarty

Hemal Mehta

Jagjeet Sareen

## 6. Executive Summary

The world requires a staggering USD 125 trillion in climate investments by 2050 to achieve net-zero emissions. India's share of this challenge is equally significant, with estimates suggesting the country needs over USD 10 trillion by 2070 to meet its climate goals and net-zero commitments. Domestic finance is crucial for India's climate action. A 2022 report by the Climate Policy Initiative ("Landscape of Green Finance in India 2022") found that domestic sources accounted for the majority of green finance in India, at 87% and 83% in fiscal years 2019 and 2020, respectively. While international sources are increasing (from 13% in FY 2019 to 17% in FY 2020), they are still insufficient to meet India's net-zero target. Therefore, greater participation from international finance is essential. In this context, GIFT-IFSC is uniquely positioned to play a key role. It can act as a channel for foreign capital, not only for India's net-zero goals, but also for other developing countries.

The market for GSS+ labelled bonds and loans has seen growth, but its impact has been limited to already green or net-zero emission sectors. To address this gap, "transition labelled instruments" are emerging across the world. However, there's currently no universally agreed-upon definition of "transition finance." Various regulatory bodies, standard-setting organizations, and institutions around the world have developed their own versions for financing transition. Given GIFT-IFSC's role as a gateway connecting India to the global economy, a key challenge is creating an enabling framework for "transition finance" in a way that attracts international investors while also considering India's socio-economic realities. By analysing existing global definitions and best practices, the report has analysed areas of convergence and common parameters. The report proposes various alternative approaches for IFSCA to consider, aiming to support India's journey towards net-zero emissions by 2070.

The report has also delved into policy and regulatory levers in order to increase the mobilization of transition finance through financial instruments through GIFT-IFSC. Beyond defining the scope, definition, policy and regulations for transition finance, the report addresses financial structures and instruments to mobilize these investments. It recognises the need for innovation not just in debt and equity instruments, but also in risk mitigation tools like insurance and guarantees. Additionally, the report recommends various tools to support the capture and standardization of information, which is crucial for effective transition finance.

The committee's comprehensive recommendations aim to create a robust ecosystem for transition finance at GIFT-IFSC. This ecosystem will not only facilitate capital mobilization for India's net-zero goals, but also serve as a springboard for other developing economies on their journeys towards sustainability.

## 7. Context

The Paris Agreement calls for making finance flows consistent with pathways towards low greenhouse gas emissions. To limit the average global temperature, increase to 1.5 degree Celsius, there is a need to implement decarbonizing measures and strategies that can bring about substantial reduction in emissions intensity across geographies and sectors, particularly, in energy intensive and hard-to-abate sectors such as steel and cement. To achieve this, a directed and simultaneously inclusive approach is necessary for financing the global low-carbon economic transition, that also addresses the concerns of Emerging Markets and Developing Economies (EMDEs).

It is estimated that capital investment of approximately USD 3.5 trillion per year is required by 2050 to shift to a global net-zero economy and avert the apparently inevitable climate catastrophe<sup>1</sup>. India would need cumulative investments of over USD 10 trillion by 2070 to achieve its net-zero ambitions<sup>2</sup>. Given that the tracked finance flows to climate mitigation account for approximately 25% of the total climate investments required<sup>3</sup> in India, it can be inferred that the transition to net-zero will require a significant increase in climate investments -- not only toward cleaner energy and transport, but also to hard-to-abate sectors like industries and buildings, with a focus on reduction in carbon emissions. While financing cleaner technologies is relatively easier and well-defined as 'green', financing transition to low-carbon emissions in hard-to-abate sectors is much harder and does not have a well-defined approach. If India is to achieve its net-zero target, finance flows toward decarbonization of hard-to-abate sectors is critical. Finding solutions would require deploying and scaling up new and innovative technologies, often called transition technologies. However, financing such technologies is currently limited and constrained by a lack of clear definition and taxonomy. Transition finance, which is inclusive of sectors and geographies, has emerged to fill this gap.

Emissions abatement in industrial sectors will rely on a combination of best-available technologies -- energy efficiency, renewable energy, alternative fuels, etc. -- during this decade, and breakthrough technologies such as green hydrogen, carbon capture, direct electrification, etc., post-2030 (discussed later in this report). Unlike the power and transport sectors where green technologies such as solar PV/wind and battery energy storage can shift the sectors to low/near-zero carbon emissions, industrial sectors will likely undergo a gradual transition. Utilization of the best available and commercially viable technologies is needed to keep the cumulative emissions ('area under the curve') to a minimum, while also investing in commercial-scale demonstrations and scaling up of breakthrough technologies until they are ready for market-based financing. Investments are needed in technologies that can lower emissions intensity of the sector, though these may not be green/near-zero emissions and are therefore

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<sup>1</sup>Report on "Achieving A Transition Finance Framework in The EU" by E3G

<sup>2</sup> <https://www.ceew.in/cef/publications/investment-sizing-india-s-2070-net-zero-target>

<sup>3</sup> [https://www.climatebonds.net/files/reports/cbi\\_susdebtsum\\_q32023\\_01e.pdf](https://www.climatebonds.net/files/reports/cbi_susdebtsum_q32023_01e.pdf)



incompatible with net-zero/climate neutrality targets. Most of these technologies are Capex and Opex heavy and require massive investments.

Public capital alone is not sufficient to meet the demand for financing the transition in industrial sectors, and much larger sources of private capital must step in. Transition finance is emerging as an important category of finance that can enable private finance to flow towards 'transition activities' that are otherwise not a part of green finance markets. Transition finance instruments can help trigger entity-wide transformations and reduce the exposure to transition risks.

Public capital alone is not sufficient to meet the demand for financing the transition in industrial sectors and much larger sources of private capital must step in. Mobilization of capital, both domestic and international, is needed. International Financial Services Centres (IFSCs), therefore, have an integral role to play since they can be the conduits for international capital to flow.

### **Examples of Transition Finance initiatives**

As Per the Organisation for Economic Cooperation and Development (OECD), transition finance can be defined as finance deployed or raised by economic agents to implement their net-zero transition, in line with the temperature goal of the Paris Agreement and based on the credible climate transition plans with measurable results. OECD has defined transition finance as a financing approach that 'focuses on the dynamic process of becoming sustainable, rather than providing a point-in-time assessment of what is already sustainable, to provide solutions for a whole-of economy decarbonisation.' Contrary to green finance, transition finance intends to allocate capital to companies and activities that are not 'green' but are in the process of 'becoming green', or in the process of reducing emissions (and therefore, lowering their exposure to transition risks), emphasizing both inclusiveness and environmental integrity to avoid greenwashing<sup>4</sup>.

According to Climate Bonds Initiative (CBI), the 'transition' label can be used for eligible investments that are making substantial contributions to halving global emissions levels by 2030 and reaching net-zero by 2050, but do not have a long-term role to play (i.e. beyond 2050), and the activities that will have a long term role to play but at present, their long term pathway to net zero goals is not certain.

Under Article 10 (2) of the European Union Taxonomy Regulation, transition activity is defined thus: '...an economic activity for which there is no technologically and economically feasible low-carbon alternative shall qualify as contributing substantially to climate change mitigation where it supports the transition to a climate-neutral economy consistent with a pathway to limit the temperature increase to 1.5 degrees C

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<sup>4</sup>[https://www.climatebonds.net/files/reports/cbi\\_slb\\_report\\_2024\\_04d.pdf](https://www.climatebonds.net/files/reports/cbi_slb_report_2024_04d.pdf)



above pre-industrial levels, including by phasing out greenhouse gas emissions, in particular emissions from solid fossil fuels, and where that activity:

- a) has greenhouse gas emission levels that correspond to the best performance in the sector or industry;
- b) does not hamper the development and deployment of low-carbon alternatives; and
- c) does not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.'

As per Japan's Ministry of Economy, Trade and Industry, transition to net-zero should comprise a transition phase where all sectors maximize efforts to decarbonize as much as possible through process efficiencies -- typically energy efficiency, fuel switching, material circularity, etc. The aim is to reduce emissions until technologies like carbon capture and storage become economically viable.

According to International Capital Markets Association (ICMA)<sup>5</sup>, a 'transition' label applied to a debt financing instrument should serve to communicate the implementation of an issuer's corporate strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to alignment with the goals of the Paris Agreement.

According to the Asian Development Bank<sup>6</sup>, 'Transition finance is a concept where financial services are provided to high carbon-emitting industries – such as coal-fired power generation, steel, cement, chemical, paper making, aviation and construction – to fund the transition to decarbonization.'

According to G20 Sustainable Finance Working Group, Transition Finance<sup>7</sup> is defined as 'financial services supporting the whole-of-economy transition, in the context of the Sustainable Development Goals (SDGs), towards lower and net-zero emissions and climate resilience, in a way aligned with the goals of the Paris Agreement.'

The Climate Finance committee set up by IFSCA believes that the ADB and G20 approaches reflect the economic realities of India much better than the EU's approach, given India's economic development scenario and income levels. It may be useful to note that while some definitions lend themselves to 'green', and others to 'sustainable', there is a lack of clarity on how finance can be qualified for transition activities.

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<sup>5</sup> <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Climate-Transition-Finance-Handbook-December-2020-091220.pdf>

<sup>6</sup> <https://blogs.adb.org/blog/transition-finance-critical-address-climate-change>

<sup>7</sup> <https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf>

## Clarifying Green and Transition Finance

For transition finance to become mainstream as a class of directed financing, a definition and clear understanding of boundary conditions is the first step. Currently, there is a lack of global consensus on the definition and framework for transition finance. As a result, the market for transition finance is currently small and there is ambiguity on the role of Financial Institutions (FIs) in financing transition activities. Guidance on transition finance exists only in a few places like the EU and Japan. A few independent organizations have developed their own frameworks and guidance principles (described above and tabulated in Appendix 2: Definitions and Guardrails). However, it is important for these principles to define ‘transition activities’ and differentiate between transition finance and green finance. Table 1 below highlights this difference. In addition, transition finance frameworks for FIs should consider which technologies are to be deemed ‘best-available technologies’; sector-specific benchmarks and targets to be used as reference for ‘transition pathways’; and global alignment while accounting for country-level and industry constraints. These and other policy and regulatory aspects have been discussed, and recommendations are presented in the following section.

*Table 1: Difference between green and transition finance*

	Green Finance	Transition Finance
Definition	Financing zero/near-zero-emissions technologies that are aligned with the Paris Agreement	Reducing emissions for hard-to-abate sectors or sectors that are important for emissions reductions in other sectors (as enablers). In most cases, these activities are not Paris Aligned but are important due to the lack of suitable ‘green’ alternatives.
Examples	Solar PV, Wind	Steel, Cement, Shipping, Aviation, Heavy-duty transport, etc.

## 8. Deliberations and Recommendations

### 8.1 Pillar 1 – Scope and Definition of Transition Finance

This aims to provide clarity to entities seeking to raise capital for financing transition activities and projects/businesses, and to provide confidence to investors and lenders.

The following trends and imperatives provide valuable background and justification for the recommendations that have been put forth.

**Global initiatives:** Various efforts are underway in multiple jurisdictions by governments and regulators, by international standard-setting bodies and coalitions, as well as

individual institutions, that draw from existing mandates and/or voluntary standards, to match the scope of their operations. Their initiatives on transition finance come in many different forms, including guidelines, frameworks, guidance, taxonomies, handbooks, and white papers. The sub-group on Scope and Definitions mapped ten significant initiatives to arrive at specific recommendations for IFSCA. The list of evaluated frameworks is in Table 2.

**Domestic initiatives:** Capital market regulator SEBI, issued guidelines that expanded the scope of green debt securities to include transition bonds and plans, that also need environmental and social risk assessment pertaining to the investment and impact reporting. A granular classification system to screen activities, however, remains to be developed to guide the flow of thematic international (and local) capital for such activities at scale.

The Ministry of Finance (MoF) set up a Sustainable Finance Task Force in 2021. The terms of reference of the Task Force include defining the framework for sustainable finance in India, establishing the pillars for a sustainable finance roadmap, suggesting draft taxonomy of sustainable activities and a framework of risk assessment by the financial sector.

**Rapidly evolving theme:** Transition finance, both in concept and practice, is only a few years old, and is rapidly evolving. Hence, it is desirable to align with globally recognized good practices, investor expectations, and account for any Indian context-specific particularities, such as the 2070 pathway to net-zero emissions. It is also important to recognize that enormous capital will need to be mobilized to front-load investments in the current decade for an orderly transition. Specifically, India would require investments of over USD 10 trillion to achieve net-zero by 2070, at an average rate of about USD 200 billion per year (CEEW, 2021).

**Investor expectations:** Preferences of international (and domestic) investors point to the need and opportunity to finance transition in hard-to-abate sectors. International investors point out that national frameworks and taxonomies are welcome for their signalling effect on the market and leadership. However, for international investors, the opportunity cost accruing from the additional effort of translating the differences in different taxonomies and standards is perceived as high, and they would likely fill this gap with some existing international framework or taxonomy.

**Market integrity:** Integrity is central to the growth of the market and for the smooth flow of transition finance. This is emphasized by international investors (and by regulators worldwide), implying the need for a robust assurance system<sup>8</sup> through external verification when thematic capital is raised using a label. The 'transition finance' label, for transition bonds/loans (Use of Proceeds) and sustainability-linked bonds/loans (outcome linked), while lucrative to issuers and witnessing a huge potential for growth, is also subject to heightened investor scrutiny for transparency, measurable progress, and accountability from companies embracing transition finance.

**Deal flows:** Trends relating to growth in the cumulative volume of green, social, sustainability, and sustainability-linked (GSS+) debt, show global tally at USD 4.2 trillion

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<sup>8</sup> International standards such as Climate Bonds have established a process for external verification, which is widely used and can be adopted or recognized by IFSCA to avoid duplication.

in 2023 (Climate Bonds Initiative, 2023), with 67% dominated by green bonds; social bonds at 16%; sustainability bonds at 14%; Sustainability-Linked Bonds (SLBs) at 3%; and transition bonds making up 0.3%<sup>9</sup>. High investor scrutiny for SLBs may have disincentivized issuers and investors alike.

SLBs have been facing considerable scrutiny due to lack of credibility owing to linkages with greenwashing as a result of inadequate structural and calibration features, and weak underlying transition plans. Transition plans are being increasingly asked for by investors and regulators to check if they include all material sources of emissions and reinforce the issuers' commitment through credible financial planning<sup>10</sup>.

Figure 1: Issuance of GSS+ Labelled bonds

Global GSSSB issuance by type

(Bil. US\$)	Green bond	Social bond	Sustainability bond	Sustainability-linked bond	Transition bond	Total
2019	265	19	53	4	1	342
2020	308	170	137	9	3	627
2021	570	221	200	97	4	1,092
2022	523	175	151	77	4	930
2023	575	181	159	66	3	984

Excludes structured finance data. GSSSB—Green, social, sustainability, and sustainability-linked bonds.

Sources: Environmental Finance Bond Database. S&P Global Ratings.

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Table 2: Transition finance initiatives evaluated

Nature of Entity	Name of Entity	Title	Release
Jurisdiction/ Regulator	<b>Association of Southeast Asian Nations (ASEAN)</b>	<a href="#">Transition Finance Guidance</a>	October 2023
	<b>European Union (EU)</b>	<a href="#">EU Taxonomy regulation</a>	June 2020
		<a href="#">Taxonomy delegated regulation for Technical Screening Criteria (TSC)</a>	July 2021
<b>Japan</b>	<a href="#">Basic Guidelines on Climate Transition Finance</a>	May 2021	
	<a href="#">Technology Roadmaps (Iron &amp; Steel)</a>	October 2021	

<sup>9</sup> [https://www.climatebonds.net/files/reports/cbi\\_susdebtsum\\_q32023\\_01e.pdf](https://www.climatebonds.net/files/reports/cbi_susdebtsum_q32023_01e.pdf)

<sup>10</sup> [https://www.climatebonds.net/files/reports/cbi\\_slb\\_report\\_2024\\_04d.pdf](https://www.climatebonds.net/files/reports/cbi_slb_report_2024_04d.pdf)



Nature of Entity	Name of Entity	Title	Release
	<b>Monetary Authority of Singapore (MAS)</b>	<a href="#">Singapore-Asia Taxonomy for Sustainable Finance</a>	December 2023
Standard Setter/ Coalition	<b>Climate Bonds Initiative (CBI)</b>	<a href="#">White Paper - Financing Credible Transitions</a>	September 2020
		<a href="#">Discussion Paper on Transition Finance for Transforming Companies</a>	September 2022
		<a href="#">CBI has sector criteria available for energy, transport, buildings, etc. available here</a>	
	<b>Glasgow Financial Alliance for Net-Zero (GFANZ)</b>	<a href="#">Financial Institution Net-zero Transition Plans: Fundamentals, Recommendations, and Guidance</a>	November 2020
	<b>International Capital Markets Association (ICMA)</b>	<a href="#">Climate Transition Finance Handbook: Guidance for Issuers</a>	September 2023
Institution	<b>Barclays</b>	<a href="#">Transition Finance Framework</a>	February 2024
	<b>DBS</b>	<a href="#">Sustainable &amp; Transition Finance Framework &amp; Taxonomy</a>	March 2022
	<b>Standard Chartered</b>	<a href="#">Transition Finance Framework</a>	2021

A detailed matrix elaborating on the approach taken by each of the ten entities under the three categories (jurisdictions/regulators, standard setters/coalitions, and institutions) towards transition finance, is provided in Appendices 1, 2 and 3.

## Findings

**Areas of convergence and common parameters:** The wide range of entities and initiatives on transition finance notwithstanding, their respective approaches to it feature several areas of convergence. Specifically, many seek to approach transition finance from the perspective of common parameters such as industry/sector; activity/process; transition trajectory; and test for general corporate finance and instruments. Table 3 summarizes the approaches of various entities with regard to these parameters.

Table 3: Parameters-specific approach taken by evaluated entities

Parameters	Approach
<b>Industry/Sector</b>	<ul style="list-style-type: none"> <li>• Listed directly (without going through labelling/traffic light)               <ul style="list-style-type: none"> <li>- 1 Jurisdiction/Regulator (Japan)</li> <li>- 2 Institutions (Barclays, Standard Chartered)</li> </ul> </li> <li>• Arrived at via a labelling/traffic light system.               <ul style="list-style-type: none"> <li>- 2 Jurisdictions/Regulators (EU, MAS)</li> <li>- 1 Standard Setter/Coalition (CBI)</li> <li>- 1 Institution (DBS)</li> </ul> </li> <li>• Labelling system exists but does not arrive at specific industry/sector.               <ul style="list-style-type: none"> <li>- 1 Jurisdiction (ASEAN)</li> <li>- 1 Standard Setter/Coalition (GFANZ)</li> </ul> </li> <li>• No guidance               <ul style="list-style-type: none"> <li>- 1 Standard Setter/Coalition (ICMA)</li> </ul> </li> </ul>
<b>Activity/Process</b>	<ul style="list-style-type: none"> <li>• Listed directly.               <ul style="list-style-type: none"> <li>- 2 Institutions (Barclays, Standard Chartered)</li> </ul> </li> <li>• Arrived at via a taxonomy/technology roadmap.               <ul style="list-style-type: none"> <li>- 4 Jurisdictions/Regulators (ASEAN, EU, Japan, MAS)</li> <li>- 1 Standard Setter/Coalition (CBI)</li> <li>- 1 Institution (DBS)</li> </ul> </li> <li>• No guidance               <ul style="list-style-type: none"> <li>- 2 Standard Setters/Coalitions (GFANZ, ICMA)</li> </ul> </li> </ul>
<b>Trajectory</b>	<ul style="list-style-type: none"> <li>• Aligned with Paris Agreement (1.5°C)               <ul style="list-style-type: none"> <li>- 2 Jurisdictions/Regulators (EU, Japan)</li> <li>- 2 Standard Setters/Coalitions (CBI, GFANZ)</li> <li>- 1 Institution (Standard Chartered)</li> </ul> </li> <li>• Aligned with Paris Agreement (1.5°C or 2.0°C)               <ul style="list-style-type: none"> <li>- 1 Jurisdictions/Regulators (ASEAN)</li> <li>- 1 Standard Setter/Coalition (ICMA)</li> <li>- 1 Institution (DBS)</li> </ul> </li> <li>• Aligned with 2.0°C but transitioning towards 1.5°C by specified target year               <ul style="list-style-type: none"> <li>- 1 Jurisdiction/Regulator (MAS)</li> </ul> </li> <li>• Provides choices to select alignment with regional or national scenarios, in addition to Paris Agreement 1.5°C               <ul style="list-style-type: none"> <li>- 1 institution (Barclays)</li> </ul> </li> </ul>
<b>Test for General Corporate Finance</b>	<ul style="list-style-type: none"> <li>• Specific percentage of revenues (90%) traceable to specified activities               <ul style="list-style-type: none"> <li>- 2 Institutions (Barclays, Standard Chartered)</li> </ul> </li> <li>• Qualitative framework               <ul style="list-style-type: none"> <li>- 1 Institution (DBS)</li> </ul> </li> <li>• No guidance               <ul style="list-style-type: none"> <li>- 4 Jurisdictions/Regulators (ASEAN, EU, Japan, MAS)</li> </ul> </li> </ul>



Parameters	Approach
	- 3 Standard Setters/Coalitions (GZANZ, CBI, ICMA)
<b>Instruments</b>	<ul style="list-style-type: none"> <li>• All financial instruments <ul style="list-style-type: none"> <li>- 1 Jurisdiction/Regulator (ASEAN)</li> <li>- 1 Institution (DBS)</li> </ul> </li> <li>• Use of proceeds &amp; SLB <ul style="list-style-type: none"> <li>- 1 Jurisdiction/Regulator (Japan)</li> <li>- 2 Standard Setter/Coalition (CBI, ICMA)</li> </ul> </li> <li>• Exclusions for SLB++ <ul style="list-style-type: none"> <li>- 1 Institution (Barclays)</li> </ul> </li> <li>• No guidance <ul style="list-style-type: none"> <li>- 2 Jurisdictions/Regulator (EU, MAS)</li> <li>- 1 Standard Setter/Coalition (GZANZ)</li> </ul> </li> <li>• 1 Institution (Standard Chartered)</li> </ul>

Rapid decarbonization of the economy would entail decarbonization of sectors, which would in turn happen through decarbonization of economic entities. This would entail adoption of cleantech/emissions reduction technologies, supply chain disclosures and emissions reductions. etc). At each of these levels, a set of tools will be needed -- such as frameworks/regulations and trajectories at the level of sectors; financial instruments and transition plans; entity-level assessments; and financial instruments such as the use of proceeds and taxonomies at the level of activities and measures.

**Mitigation focus:** The priority mandate for the sub-group concerned emissions reduction. This is not to say that adaptation or social aspects are less important for transition, but they are to be mostly used as environmental and social 'safeguards'.

From a more high-level perspective transition finance initiatives should aim to incorporate, principles of ambition, inclusivity, and flexibility with a credible transition plan:

- **Ambition:** Aiming high means aligning activities with a science-aligned pathway with targets that get the entity to net-zero by 2050 or earlier, and/or respective countries net-zero trajectory consistent with Paris goals.
- **Inclusivity** allows all sectors and activities to participate; and
- **Flexibility** means utilizing financial instruments -- other than bonds and loans-- for financing transition.

Table 4 gives a list of options for IFSCA for each parameter.

Table 4: Parameters-specific approach options for IFSCA

Parameters	Approach Options for IFSCA
<b>Industry/Sector</b>	<ul style="list-style-type: none"> <li>• <u>Option 1:</u> List directly without going through labelling/traffic light system               <ul style="list-style-type: none"> <li>- 15 sectors listed in India’s Third National Communication to UNFCCC which account for 91% of emissions.</li> <li>- Sectors which eventually come into the fold of the Indian Carbon Market (ICM)</li> </ul> </li> <li>• <u>Option 2:</u> Arrive via labelling/traffic light system               <ul style="list-style-type: none"> <li>- Adapt existing global or regional system to suit Indian needs.</li> <li>- Nudge appropriate authorities (MoF/SEBI) to create bespoke for India</li> </ul> </li> </ul>
<b>Activity/Process</b>	<ul style="list-style-type: none"> <li>• <u>Option 1:</u> Recognize established jurisdictional taxonomies/global standards as an interim measure until India’s own taxonomy is released               <ul style="list-style-type: none"> <li>- ASEAN</li> <li>- EU</li> <li>- Japan (technology roadmap)</li> <li>- MAS</li> <li>- CBI</li> <li>- ICMA</li> </ul> </li> <li>• <u>Option 2:</u> Adopt Indian taxonomy               <ul style="list-style-type: none"> <li>- Nudge appropriate authorities (MoF/SEBI) to create bespoke for India</li> </ul> </li> <li>• <u>Option 3:</u> Adopt activities that feature on India’s whitelist for Article 6.2               <ul style="list-style-type: none"> <li>- While activities themselves are mentioned, granularity with respect to their technology specifications is presently lacking.</li> </ul> </li> </ul>
<b>Trajectory</b> <b>(Note that most taxonomies have emissions thresholds stapled to the various activities listed in them, which are in turn aligned with the trajectories they are targeting)</b>	<ul style="list-style-type: none"> <li>• <u>Option 1:</u> Align with Paris Agreement 1.5°C               <ul style="list-style-type: none"> <li>- EU</li> <li>- Japan</li> <li>- Or others such as IEA, IPCC RCP 1.9 and RCP 2.6</li> </ul> </li> <li>• <u>Option 2:</u> Align with Paris Agreement 1.5°C or well below 2.0°C               <ul style="list-style-type: none"> <li>- ASEAN</li> </ul> </li> <li>• <u>Option 3:</u> Adopt a quantitative approach and implement Industry/Sector-specific trajectories               <ul style="list-style-type: none"> <li>- Nudge appropriate authorities (Niti Aayog, MOEFCC, line ministries) to create bespoke for each industry/sector</li> </ul> </li> </ul>

Parameters	Approach Options for IFSCA
<b>Test for General Corporate Finance</b>	<ul style="list-style-type: none"> <li>• <u>Option 1</u>: Specify <ul style="list-style-type: none"> <li>- Percentage based that represents significant contribution to emissions reduction</li> <li>- Qualitative (where required)</li> <li>- Transition plan with clear milestones and financial plan</li> </ul> </li> <li>• <u>Option 2</u>: Do not specify (leads to misallocation of capital and greenwashing) <ul style="list-style-type: none"> <li>- Majority of entities evaluated (8 out of 10) do not give guidance, and the 2 that do, are institutions</li> </ul> </li> </ul>
<b>Instruments</b>	<ul style="list-style-type: none"> <li>• <u>Option 1</u>: All financial instruments</li> <li>• <u>Option 2</u>: Specify exclusions</li> </ul>

In light of the above, following are the recommendations for IFSCA for each parameter, along with a brief rationale for the same.

## Recommendations

1 Approach for transition finance on various parameter			
	Parameter	Recommendation for IFSCA	Rationale
	<b>Industry/ Sector</b>	<ul style="list-style-type: none"> <li>• List directly without going through labelling/traffic light system</li> </ul>	<ul style="list-style-type: none"> <li>• Use <a href="#">15 sectors listed on page 74 of India's Third National Communication to UNFCC</a> that account for &gt;90% of emissions.</li> <li>• Labelling/traffic light can be an onerous exercise, whereas sources of emissions-- which is where transition needs to happen--- are already documented.</li> <li>• <a href="#">Japan, which has been the most successful jurisdiction for transition bonds</a> also lists the industry/sectors directly without going through a labelling/traffic light system.</li> </ul>

<b>Activity/Process</b>	<ul style="list-style-type: none"> <li>Allow use of well-recognized and robust taxonomy/technology roadmaps</li> </ul>	<ul style="list-style-type: none"> <li>As India does not yet have a taxonomy in place, passporting taxonomies/technology roadmaps from elsewhere would be an efficient way to kick-start transition finance flows.</li> <li>In doing so, any robust and widely recognized good practice taxonomy/technology roadmap may be allowed to be used.</li> <li>When India introduces its own taxonomy, it will be added to the list of allowed taxonomies, without removing the previously allowed ones.</li> </ul>
<b>Trajectory</b> <b>(Note that most taxonomies have emissions thresholds stapled to the various activities listed in them, which are in turn aligned with the trajectories they are targeting)</b>	<ul style="list-style-type: none"> <li>Allow alignment with either Paris Agreement 1.5°C or well below 2.0°C</li> </ul>	<ul style="list-style-type: none"> <li>Per IPCC at a global level, <a href="#">a 2.0° trajectory would require reaching net-zero by around 2070</a>, which is also India's stated net-zero target year.</li> <li>By also introducing optionality to align with 1.5°C rather than only 2.0°C, a greater number of activities under 1.5° C aligned taxonomies/technology roadmaps (e.g., EU &amp; Japan) become available for financing to entities with higher ambition.</li> </ul>
<b>Test for General Corporate Finance</b>	<ul style="list-style-type: none"> <li>Specify</li> </ul>	Specify rationale: <ul style="list-style-type: none"> <li>Specifying would be particularly relevant for those institutions which do not have general corporate finance tests of their own.</li> <li>This would also be valuable for bond issuances.</li> </ul>

		<ul style="list-style-type: none"> <li>• In the case of institutions with their own general corporate finance tests they may be allowed to use either their own or the test that the framework will specify.</li> <li>• To make explicit the transition plan with clearly defined milestones against science-aligned trajectory for accountability and transparency.</li> </ul>
2	Universally prevalent systems of assurance should be used for third party verification to reduce chances of greenwashing.	
3	A detailed taxonomy for transition finance for India may need to be pursued by the MoF and/or SEBI; currently this lies outside the scope of IFSCA.	

Another aspect to be considered is the linking of instruments as either result-based or use of proceed, or both. An example of instruments for each of the options is in Table 5.

*Table 5: Difference between result based/KPI linked and instruments*

	<b>Results-Based (Sustainability-Linked Bonds/Loans)</b>	<b>Use of Proceeds (Green Bonds)</b>
<b>Type of finance</b>	KPI-linked	Use of proceeds
<b>Scope</b>	Usually finances entity-level transition activities to sustainable practices. May include several sustainability indicators as part of KPIs.	Use of Proceeds are debt instruments where the issuer promises to the investors that all the raised funds will only go to specified climate-related programs or assets, such as renewable energy plants or climate mitigation funding programs.
<b>Standards</b>	ICMA Sustainability-Linked Bond Principles (SLBP)	ICMA Green Bond Principles (GBP)
<b>Due diligence</b>	Company-level transition plans	Benchmarking against sectoral transition pathways and targets.

## 8.2 Pillar 2 – Policy and Regulation

### **Stimulating the Demand for Transition Finance**

There exist significant barriers to the decarbonization of industrial and other hard-to-abate sectors such as shipping and aviation, that can result in potential locking-in of investments in carbon-intensive assets. Several ‘transition-stage’ technologies, which are expected to play an important role in decarbonizing these sectors, are between Technology Readiness Levels (TRL) 5 – 9 (early demonstration to early commercial operations). Technologies that are commercially available in India (mainly RE, energy efficiency, and material circularity), and have substantial mitigation potential, remain severely under-used despite having favourable economics. There are several underlying barriers to financing and adoption of low-carbon technologies, including technology performance risk; unproven business models; high upfront investment costs; internationally competitive markets; policy and regulatory uncertainty; lack of appropriate incentives; lack of supporting infrastructure; limited technical capabilities and resources to finance a profitable transition through technological improvements and innovation; and limited access to suitable financing and financial services owing to a lack of tailored solutions.

These underlying barriers translate into real and perceived investment risks, causing a mismatch between a project's investment risk-return profile and the expectations of private investors, resulting in high cost of financing and under-investment in climate-positive activities. Diffusion of breakthrough technologies cannot be left to market forces alone.

Financial sector policies, regulations, and guidelines/frameworks to unlock the supply of transition finance, need to be complemented with targeted interventions focused on the real sector, that address the barriers to financing; improve the risk-return profile of investments; and thereby stimulate the demand for transition finance. The speed and scale of a low-carbon transition would require the government to play a key role in correcting multiple market failures (environmental externalities, information asymmetry, coordination failures), and in creating new markets for low-carbon technologies.

Effective and well-designed ‘green’ sectoral policies can level the playing field between low-carbon and conventional technologies, incentivize early adopters of low-carbon solutions, reduce investment risks (by reducing cost of capital), and create markets for green products, in turn creating a demand for transition finance to flow into these sectors. Such policy frameworks would need to target (and balance) multiple outcomes – output, competitiveness, and decarbonization – and could use a mix of financial, market-based, and regulatory instruments to achieve these objectives.

Table 6 describes various types of policy instruments that can be used to this effect.



Table 6: Real sector policy instruments to stimulate demand for transition finance

Category	Instrument	Definition	Instrument Type
<b>Research, Development and Demonstration (RD&amp;D) and Supporting Investments</b>	Long-term decarbonization targets and sectoral pathways	Developing, supporting, and implementing policies, including targets and strategic plans, that guide policy development	Others
	Public RD&D funding	Public grant funding for RD&D	Fiscal and financial
	Private RD&D incentives	Incentives for private sector spending on RD&D, like tax credits	Fiscal and financial
	Public investments in supporting infrastructure	Public expenditure to develop supporting infrastructure, such as pipelines and storage facilities, enabling private investments in low-carbon technologies.	Fiscal and financial
<b>Technology Push (Supply-Side Interventions)</b>	Carbon pricing - tax	Tax on fossil fuels or carbon dioxide emissions intended to reduce the emission of carbon dioxide.	Fiscal and financial
	Carbon pricing - cap and trade market with tradable certificates	Policies introducing tradable carbon/GHG emission permits based on fixed allowances per sector and producer	Market-based
	Carbon border adjustment (as a complementary policy measure)	Policy that levies a carbon price on imports to prevent carbon leakage, generally applied together with a domestic carbon price.	Market-based
	Public direct investment in low-carbon production facilities	Policies aimed at setting up low-carbon production facilities through direct investments by State-Owned Enterprises	Fiscal and financial
	Viability Gap Funding / Capex subsidies	Capital subsidies, consumer grants or rebates as one-time payments to cover a percentage of the capital cost of an investment	Fiscal and financial

Category	Instrument	Definition	Instrument Type
	Opex subsidies	Policies offering a long-term agreement/regulation remunerating the sale of fuel/feedstock/electricity at a fixed price which is typically above standard market levels	Fiscal and financial
	Subsidized investment loans and loan guarantees	Policies providing subsidized financing to project developers, and credit guarantees to investors	Fiscal and financial
	Investment / Production tax credits	Policies allowing for full or partial deduction from income tax obligations for investments / or that provide the investor or owner of qualifying asset with an annual income tax credit based on the amount of fuel/feedstock/electricity generated during the relevant year.	Fiscal and financial
<b>Demand Pull (Demand-Side Interventions)</b>	Green public procurement	Price support for low-carbon materials either through direct procurement at green premium or through contract-for-differences (CfDs) for public infrastructure projects	Fiscal and financial
	Standards on emissions performance of end-products that use low-carbon materials (embedded carbon)	Regulations on use of low-carbon materials (such as steel/cement) in end-use sectors like automotive, shipping, and manufacturing.	Regulation
	Standards on use of by-products (ex: captured CO2)	Regulations on use of captured CO2 in high-value markets	Regulation
	Labelling of green end-use products	Accreditation of products in line with specific environmental/emission standards to advertise	Regulation

Category	Instrument	Definition	Instrument Type
		environmental quality or characteristics of the product	
	Interoperability/globally accepted standards for green and low-carbon materials	Internationally aligned definitions on varying degrees of 'green materials' to standardize production processes and support investment disclosures	Regulation

## Recommendations

Having identified potential ways to increase the mobilization of transition finance through financial instrument issuances through the IFSC, our recommendations, aimed at policy and regulatory levers that could be used and/or may be required, are as follows:

1. **Taxonomy compliance for transition finance** – Providing a reliable investment opportunity for international investors where they can trust in the compliance of underlying instruments with global standards (or having an IFSC Taxonomy), could be useful for issuing transition finance instruments through the IFSC. Given that investors would come from various jurisdictions, it is recommended that IFSCA allows the compliance of transition finance products with the taxonomies of key jurisdictions, wherever the issuances are directed, till MoF, GoI issues its own Green Finance (including transition finance) taxonomy. IFSCA could provide adequate assurance to investors, preferably through third-party assurance providers. IFSCA could also consider laying out the following compliance requirements, and state the incentives for the issuance of transition finance instruments from IFSC:
  - a. Transition finance instruments should comply with at least one of the key taxonomies recognized in leading markets. To start with, IFSCA can recognize the taxonomies detailed in Appendix 2: Definitions and Guardrails.
  - b. Issuers should comply with necessary compliance requirements for individual taxonomies, file compliance reports, and third-party assurance reports with IFSCA.
  
2. **Tax Incentives should be provided** to reduce the cost of transition finance for borrowers/investee companies investing through GIFT-IFSC till 2030, such as waiver of withholding tax for foreign investors/reduction of the withholding tax to 4%.

3. **External Commercial Borrowings (ECB) in Automatic Route** - Allow the raising of funds via transition finance instruments in automatic route in ECB.

**Box 1: ECB Automatic Route**

ECB refers to commercial loans, in the form of bank loans; buyers' credit; suppliers' credit; securitized instruments (e.g., floating rate notes and fixed rate bonds); availed from non-resident lenders with a minimum average maturity of 3 years. ECB can be accessed from two routes: (i) Automatic Route, and (ii) Approval Route. ECB for investment in real sector comes under Automatic Route and do not require RBI / Government approval.

**Automatic Route:** Corporates registered under the Companies Act, except financial intermediaries, are eligible to raise ECB from internationally recognized sources such as international banks; international capital markets; multilateral financial institutions; export credit agencies; suppliers of equipment; foreign collaborators; and foreign equity holders. The maximum amount of ECB that can be raised by a corporate is USD 500 million or equivalent during a financial year. ECB can be raised only for investment in new projects and modernization/expansion of existing production units in the real sector - industrial sector (SMEs) and infrastructure sector - in India.

**Current challenges:** There are restrictions on end-use. For example, restrictions do not allow investments to go into projects such as Smart Cities or in the areas of water supply. Apart from end-use restrictions, the current requirements around minimum maturity time are also not conducive for investments in required sectors via the ECB route. At present, the minimum maturity period is 3 years which does not allow for short-term investing. The idea here is that since there is always an option to make short-term investments even in long-term projects in the domestic scenario, the same flexibility could be afforded to international investors. Further, there is also an element of pricing, where the current regulations put a cap on the spread. Ideally, the longer the tenure, the higher the pricing. However, with the cap, longer tenure investments become less appealing to investors since they are unable to get the required return.

4. **Encourage setting up of Green FinTech in the GIFT-IFSC** (with suitable tax incentives) that can offer services to debt raising companies and international investors and catalyze the market. This initiative could cover Fintech applications including:
  - a. Support for disclosures pertaining to transition finance, with specialization in specific industries.
  - b. ESG/ transition finance data providers
  - c. ESG registries to record and maintain provenance of data and reports.
  - d. Third-party assurance services for transition financing instruments
5. **Blended Finance Mechanisms** –Blended finance mechanisms allow for risk sharing and crowding in commercial finance to improve the acceptability of transition finance instruments. Policy interventions like the following would have a positive impact on the adoption of transition finance instruments:

- a. Encourage public sector entities like National Credit Guarantee Trustee Company (NCGTC) to set up credit guarantee funds for transition finance instruments offered by Indian companies. Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTSME) could also set up a separate entity to be used for loans given by banks from IFSC based branches.
- b. Encourage public sector entities like Indian Renewable Energy Development Agency (IREDA), Power Finance Corporation to set up transition finance funds, specifically credit funds, and invest in high-risk tranches of transition finance instruments, which can help improve the uptake of transition finance instruments.
- c. Use of Philanthropic and CSR Funds– Currently, Corporate CSR funds cannot be invested for profit. Regulatory relaxations should be given to provide such funds for high-risk activities like development of new green technologies, implementation of projects involving newer/untested green technologies, performance incentives.

See **Box 2** below for clarification on what qualifies as ‘Blended Finance’.

6. **Enhanced disclosures** – While the above measures are geared to improve the cost of transition finance and improve supply, certain measures are needed to improve the demand for transition finance.
  - a. **ESG disclosures by corporate entities:** SEBI Business Responsibility & Sustainability Reporting (BRSR) guidelines are an important step forward to improve ESG disclosures of listed corporates and nudge these companies to embark on the path of decarbonization. If the BRSR disclosure requirements are expanded to cover the disclosures of net-zero targets and decarbonization roadmap of the listed entities, it will significantly influence the demand for transition finance.
  - b. **Climate risk disclosures by financial entities:** The RBI draft paper on climate risk disclosures for banks will increase the demand for transition finance by real economy corporate entities, as banks define their net-zero targets and look to reduce their financed emissions. The MoF can encourage the Insurance regulator and the Pension regulator to expand similar climate risk disclosures for their regulated entities which will further increase the demand for transition finance and accelerate the decarbonization of India



## **Box 2: What Qualifies as Blended Finance?**

Blended finance—the strategic use of development and other concessional finance to mobilize commercial finance for sustainable development—could play more of a role in scaling transition finance in India, as well as in financing for overall sustainable development; but is yet to realize even a small fraction of the potential it presents.

### **Blended Equity**

The nature of impact investing in India is quite close to that of commercial financial investments, with a focus on later-stage investments and an expectation of significant returns. Blended equity presents an opportunity to finance smaller and emerging companies in niche climate change segments that have the potential to scale over the next few years.

Each category of investor is driven by a typical risk, return, and impact profile; thus, capital needs to be mixed from a range of investors while providing differentiated risk-return for a given impact. Therefore, there is a need to pool investors and structure innovative financial mechanisms (e.g., a blended fund) that allow different risk, return, and impact requirements to be met with different classes of shares. Concessional equity will increase the risk-adjusted return rate for private investors, allowing the fund to invest in climate change businesses with a high economic rate of return and relatively lower internal rate of return, in which private sector financial investors would not have invested independently. This concessional contribution could be like a first-loss catalytic contribution (Junior equity), or a capped return structure.

**Example:** Green Growth Equity Fund (GGEF) was established with anchor investment from India's National Investment and Infrastructure Fund (NIIF) and Foreign, Commonwealth & Development Office (FCDO), Government of UK. GGEF invests in scalable operating companies and platforms across clean energy sectors. NIIF and the UK Government have committed GBP 120 million each into the Fund.

### **Blended Debt**

The perceived risk of early-stage technologies acts as a major barrier to accessing affordable debt financing from traditional lenders. There is a necessity for blended finance mechanisms/structures to facilitate debt financing at affordable interest rates.

One such mechanism is an inverted subordinate debt structure where the concessional funder's debt contribution is subordinate to senior loans and is priced *lower* than senior loans, getting the second charge on assets. An inverted/subordinated debt can be structured as an on-lending facility that can increase the availability of debt from local FIs, improve access to financing, and help build local lending capacity. DFIs can on-lend concessional capital via credit lines to local FIs, who then blend it with their own higher-cost funds to provide loans to end-users at lower-than-market rate.

Another blended finance instrument is Partial Credit Guarantee (FLDG/PCG) which can be structured as a credit guarantee mechanism (CGM). A CGM would work as a bilateral loss-sharing agreement between the credit guarantee fund and lending institutions (banks/FIs), supporting the lending institutions in case of delay in debt servicing, and also reimbursing them for a portion of any losses incurred due to payment default. Philanthropies could provide concessional capital to the CGM Fund. Member lending institutions (MLIs) (empaneled lenders) would avail guarantees for their loan portfolios in exchange for a guarantee fee.



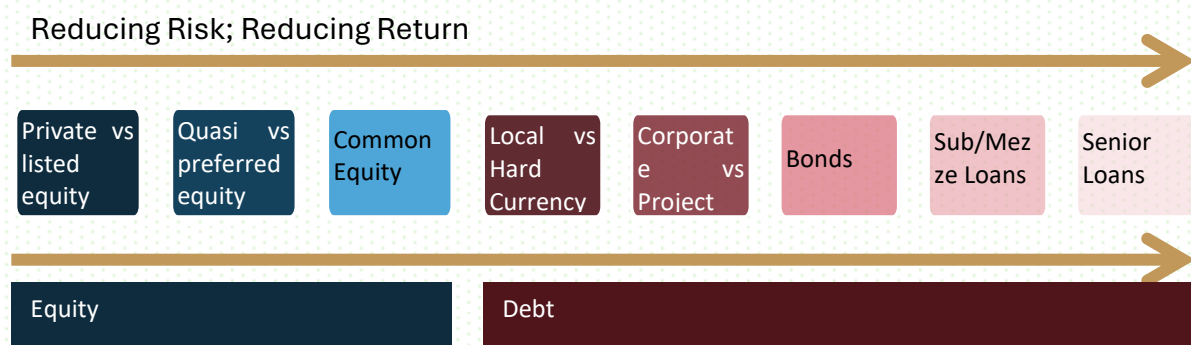
### 8.3 Pillar 3 – Financial Mechanisms (Structures) and Financial Instruments

While transition finance is a relatively new concept, green finance has been around for quite some time. Transition finance addresses the same need to reduce emissions from economic activities but does not necessarily need them to be absolute/near-zero emissions. While designing financial instruments or attempting innovation in financial instruments, it is important to first look at basic aspects, such as ‘*what is a financial instrument?*’. Financial instruments essentially remain the same, aligned with the basic theoretic capital stack of a firm /business ranging from pure equity to pure debt along the line of risk and return, as explained in the following graphic.

Capital stack is a spectrum from equity to debt with reducing returns in line with reduced risk and has various intermediate instruments in between. Some hybrid instruments are possible such as those that combine fixed income and variable returns.

Financial instruments across the capital stack would have to align/comply with the definitions and guardrails laid out in Pillar 1 – Scope and Definition.

Figure 2: Types of financing instruments



Capital stack is used via different mechanisms. Typically, financial mechanisms are institutional approaches defined by financial regulators in India – the RBI, IRDAI and SEBI.

Examples of existing and novel financial mechanisms (also called structures) include a) Securitization b) Blended Finance c) Alternative Investment Funds d) Guarantees/Risk Sharing Mechanisms e) Carbon finance mechanisms, etc. Each mechanism uses one or multiple financial instruments which are: equity, (even Junior Equity), senior debt, subordinate debt, preference shares, hybrid instruments, guarantees, etc.

An indicative list of structures and mechanisms is presented in Figure 3. The ones in dark red are for financing and the lighter ones are de-risking mechanisms.

Figure 3: Financing and de-risking mechanisms and structures



New and innovative financial mechanisms that could support scaling transition finance, may include a range of traditional debt and equity instruments, and risk mitigation instruments like insurance and guarantees. Some novel instruments that already exist in the market include transition bonds, sustainability-linked bonds, and loans among others.

## Recommendations

Following financial instrument that can be enabled in GIFT-IFSC to mobilize transition finance.

### 1. Equity and debt instruments

	Transition Bonds/ Transition Loans	Convertible Transition Bonds/ Loans	Equity/AIF	Sustainability - Linked Bond/Loan	Sustainability-Linked Derivative (SLD)
<b>Nature of Instrument</b>	Debt	Debt instruments with option to convert into equity at a predetermined level. This instrument offers flexibility to investors seeking the safety of bonds but with the potential to convert to stocks in favorable market conditions.	Equity/ Quasi-Equity/ Convertible instrument	Debt instruments with interest rate linked to predetermined outcome	A derivative transaction with Key Performance Indicators (KPIs) built into contractual arrangements of SLD transactions.
<b>Subscriber</b>	Banks/FIs, Private Investors etc	FIs, Funds	Funds, AIF etc.	Banks/FIs, Private Investors etc.	

	<b>Transition Bonds/ Transition Loans</b>	<b>Convertible Transition Bonds/ Loans</b>	<b>Equity/AIF</b>	<b>Sustainability - Linked Bond/Loan</b>	<b>Sustainability-Linked Derivative (SLD)</b>
<b>Purpose</b>	Reducing carbon emissions intensity of operations	Reducing carbon emissions intensity of operations	Investment into capex for low-carbon/energy-efficient technologies with specified outcomes	General corporate purpose with outcome linked to SDG 13	Incentivize ESG performance.
<b>Methodology/ Framework to be adopted</b>	Issuers can adhere to international standards set by organizations like LMA, ICMA, and CBI, among others		Transition plan /pathway to be put in place. Third-party verification may be prescribed at overall company level	Issuers can adhere to international standards set by organizations like LMA, ICMA, and CBI, among others.	International Swaps and Derivative Association (ISDA)

2. **Blended Finance** Instruments for equity and debt structure. Tables 7 and 8 provide details of how blended finance can be used for equity and debt structures, respectively<sup>11</sup>.

Table 7: Blended finance for equity investments

	<b>Structure I (Capped upside return)</b>	<b>Structure II (Junior equity)</b>
<b>Anchor Foundations' contribution</b>	Investment with a capped return, thereby passing the	Contribution as catalytic first-loss capital, thereby providing downside protection to other

<sup>11</sup> <https://www.climatepolicyinitiative.org/blended-finance-for-climate-investment-in-india-equity-debt/>

	<b>Structure I (Capped upside return)</b>	<b>Structure II (Junior equity)</b>
	potential upside to other investors.	investors. It is also termed as the Junior equity structure.
<b>Investor's returns</b>	Possible returns will be high. Upside incentive for investors.	Returns would be lower as the upside is shared proportionately with foundations' contribution.
<b>Capital protection</b>	Investments from anchor foundations and other investors will be exposed equally to any downside risk (capital erosion).	Investors capital would be protected at least to an extent of anchor foundations' contribution by way of first-loss protection.

Table 8: Blended finance for debt investments

	<b>Structure I (Inverted subordinate debt)</b>	<b>Structure II (FLDG/PCG)</b>
<b>Anchor Foundations' contribution</b>	Subordinate to senior loans but priced lower than senior loans. Gets second charge on assets.	Contribution as catalytic first-loss capital, thereby providing downside protection to other lenders.
<b>Commercial lender</b>	Usual risk-priced interest rates.	Usual risk-priced loans, but interest rates are likely to be lower.
<b>Capital protection</b>	On default recovery, waterfall pays off senior debt first and commercial lenders have the first charge on collateral.	Commercial lenders' capital is protected to the extent of the default guarantee. (For India we found that FLDG does not work so just PCG is better).

### 3. Trade Finance

Transitioning to a low-carbon economy essentially involves technologies that come in the form of hard physical assets. In some instances, importing such technologies may become a necessity, while in others, India can play an important role as an exporter of certain technologies. In this context, trade finance, which encompasses products such as LCs, bank guarantees, factoring, purchase order finance, among others, can also emerge as an important transition finance product category. As with the case of any other financial product category, the guidance on industry, activity and trajectory would ultimately be an important factor in determining which technologies would be eligible for availing trade finance under the transition finance classification.

4. **Export Credit Agencies (ECAs)** can leverage their position as public capital providers to serve as anchor investors. ECAs, which have so long played a limited role in financing transition efforts, can finance transition activities of SMEs and corporates through the provision of transition loans, guarantees and insurance products. Following a precedent from global renewables investments, MDBs could provide project financing through an ECA. ECAs would be required to play a role in closing the investment gap and providing credit enhancements to unlock private debt financing. Significant lending for non-recourse projects or projects with non-investment grade counterparties is unlikely without a vast majority of debt (i.e., 80% and upwards) being covered by guarantees, that can be provided by ECAs. Insurers could also have a higher likelihood of providing credit, political and performance risk insurance for investments in new technologies, when working under the preferred creditor umbrellas of ECAs.

#### 5. **Carbon credits**

Carbon credit is a tradable instrument used to monetize the value of carbon emissions. Usually, one credit is measured in one ton of carbon dioxide or the equivalent in other greenhouse gases. Carbon credits are the basis for cap-and-trade-based regulated carbon markets, where entities in a given sector and jurisdiction are given an emissions allowance (cap) and are allowed to trade credits to promote economic efficiency in emissions reduction.

Carbon credits can be used to structure hybrid instruments and mechanisms. Two such examples – Carbon Contract for Difference (CCfD) and an innovative Results-Based Carbon Transition Bonds are described in the Box 3 below.

Apart from innovation in instruments and mechanisms, tools that support, capture and standardization of information would also be required. For example, a carbon rating could be used as a standardized measure of the emissions intensity of financed activities. Strong disclosures and tools like carbon rating play an important role in enabling innovation in instruments and structures. This is to ensure that all institutions use standardized approaches toward emissions management, since emissions reduction remains one of the key objectives of transition finance



### **Box 3: Examples of Innovative Carbon-based Instruments**

#### **1. Carbon Contract for Difference (CCfD)**

Breakthrough technologies required to decarbonize industrial sectors can have substantial incremental production costs compared with conventional technologies, a significant barrier to adoption. Moreover, market uncertainties can lead to revenue uncertainty, directly impacting a project's access to finance; financing structure and costs; cost of carbon abatement; and ultimately, financial viability. A Carbon Contracts for Difference (CCfD) mechanism can be used to address this barrier. A project-based CCfD is a bilateral contract between a government/government-owned entity and a low-carbon project, where the latter would receive payments equal to the difference in the carbon price that is required to make the project viable (the strike price), and the price of carbon in the market. If the price of carbon in the market is higher than the strike price, then the project pays back the difference to the government/ government-owned entity.

A CCfD is both a policy and a financial instrument that covers the incremental cost of low-carbon production and de-risks investments by addressing market uncertainties (volatility in carbon price). Key benefits of CCfDs include revenue stability, enhanced bankability, improved financing conditions, and lowering of carbon abatement costs.

#### **2. Results-Based Carbon Transition Bonds**

This hybrid instrument is an alternative to transition bonds, where a part of the coupon repayment to the investor is in the form of carbon credits generated from the carbon emissions abated during the life of the project, while the remainder is financial returns. The amount of repayment in the form of carbon credits would be computed by multiplying the volume of carbon emissions avoided (against a baseline) and the price of carbon, and the same would be amortized across the tenure of the bond. The carbon returns would then be deducted from the coupon rate to determine the financial returns.

## 9. Appendixes

### Appendix 1: Evolution of Transition Finance Definitions

Organizations	Definitions	Sources
<b>Transition Pathway Initiative (TPI)</b>	TPI analyses whether a company's practice is aligned with the goal of limiting global warming to 1.5°C. Companies are assessed both on their carbon governance and management practices -- a precursor to climate action, and their greenhouse gas emissions pathways -- the ultimate output and what matters to the planet.	<a href="https://www.lse.ac.uk/Research/research-impact-case-studies/2021/transition-pathway-initiative">https://www.lse.ac.uk/Research/research-impact-case-studies/2021/transition-pathway-initiative</a> , 2017
<b>EU taxonomy</b>	Within the EU Taxonomy, 'transition finance' refers to investments aimed at facilitating the transition to a more sustainable economy. This includes investments in activities and projects that contribute to reducing greenhouse gas emissions, increasing resource efficiency, or promoting the adoption of clean and sustainable technologies.	<i>EU Taxonomy, Jun 2020, Taxonomy delegated regulation for Technical Screening Criteria (TSC), Jul 2021</i>
<b>CBI</b>	Climate Bond Initiative (CBI) defines transition finance as the investment required to reduce GHG emissions to levels 'commensurate with meeting the goals of the Paris Agreement' (Anna Creed, 2020).	<a href="#"><i>White Paper Financing Credible Transitions, Sep 2020, Discussion Transition Finance for Transforming Companies, Sep 2022</i></a>
<b>ADB</b>	Transition finance is a concept where financial services are provided to high carbon-emitting industries – such as coal-fired power generation, steel, cement, chemical, paper making, aviation and construction – to fund their transition to decarbonization.	<i>Transition Finance is Critical to Address Climate Change, ADB, 2022</i>
<b>OECD</b>	OECD limits the scope of transition finance to hard-to-abate sectors and argues to concentrate the financing of 'economic activities that are	<i>Transition Finance: Investigating the State of Play - A Stocktake of Emerging</i>

Organizations	Definitions	Sources
	emissions-intensive, do not currently have a viable green substitute (technologically, economically or both), but are important for socio-economic development'.	<i>Approaches and Financial Instruments, OECD, 2022</i>
<b>ICMA</b>	International Capital Market Association (ICMA) defines transition finance as 'investments that effectively address climate-related risks and contribute to alignment with the goals of the Paris Agreement” (ICMA, 2020).	<a href="#"><u>Climate Transition Finance Handbook: Guidance for Issuers, Sep 2023</u></a>

## Appendix 2: Definitions and Guardrails

### Jurisdictions/Regulators

	Industry/Sector	Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
<b>ASEAN</b>  <i>(Transition Finance Guidance, Oct 2023)</i>	<ul style="list-style-type: none"> <li>• 3 labels to identify transitioning entities.               <ul style="list-style-type: none"> <li>- 1.5° C aligned/aligning.</li> <li>- 2.0° C aligned/aligning</li> <li>- Progressing</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Proposes reference to taxonomies to identify activities/processes.</li> <li>• Cites following examples of taxonomies: ASEAN, Singapore, Thailand, Indonesia, Malaysia, Philippines</li> </ul>	<ul style="list-style-type: none"> <li>• All of below</li> <li>• 1.5° C/2.0° C aligned</li> <li>• Science-based model or country/industry body led commitment</li> </ul>	Na	<ul style="list-style-type: none"> <li>• All financial instruments</li> </ul>
<b>EU</b>  <i>(EU Taxonomy, Jun 2020, Taxonomy delegated regulation for Technical Screening Criteria (TSC), Jul 2021)</i>	<ul style="list-style-type: none"> <li>• 6 environmental objective labels allocate economic activities to 9 sectors.</li> <li>• 5 (out of 9) qualify as transitional</li> <li>• Energy, construction &amp; real estate, information &amp; communication, manufacturing (cement, iron &amp; steel etc), transport (with 28 sub-sectors listed)</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple processes listed for each of 28 sub-sectors with emissions thresholds (aligned with 1.5° C)</li> <li>• For example, for iron &amp; steel 6 listed, including electric arc furnace</li> </ul>	<ul style="list-style-type: none"> <li>• All of below</li> <li>• 1.5° C aligned</li> <li>• Do not hamper development and deployment of low-carbon alternatives</li> <li>• Do not lead to lock-in of carbon intensive assets</li> <li>• Science based</li> </ul>	Na	Na
<b>Japan</b>	<ul style="list-style-type: none"> <li>• 9 listed</li> <li>• Iron &amp; steel, chemicals,</li> </ul>	<ul style="list-style-type: none"> <li>• Proposes technology roadmaps for each of</li> </ul>	<ul style="list-style-type: none"> <li>• All of below</li> <li>• 1.5° C/2.0° C</li> </ul>	Na	<ul style="list-style-type: none"> <li>• Use of proceeds</li> </ul>

	Industry/Sector	Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
<i>(Basic Guidelines on Transition Climate Finance, May 2021, supplemented by 9 sector specific roadmaps)</i>	electricity, gas, oil, cement, paper & pulp, shipping, aviation	the 9 listed industries with emissions thresholds (aligned with 1.5°C) <ul style="list-style-type: none"> <li>• For example, for iron &amp; steel: 14 technologies with 25 activities</li> </ul>	aligned <ul style="list-style-type: none"> <li>• Science-based, including targets and pathways</li> </ul>		instruments (bonds or loans) <ul style="list-style-type: none"> <li>• Sustainability-Linked Bonds/Loans</li> </ul>
<b>MAS</b>  <i>(Singapore-Asia Taxonomy for Sustainable Finance, Dec 2023)</i>	<ul style="list-style-type: none"> <li>• 3 labels to classify all economic activities <ul style="list-style-type: none"> <li>- Green (sustainable)</li> <li>- Amber (transition)</li> <li>- Red (ineligible)</li> </ul> </li> <li>• 8 listed under Amber</li> <li>• Energy, transport, construction, industry (iron &amp; steel, cement), agri &amp; forestry, CCUS, IT, waste/circular economy (with 40 sub-sectors)</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple processes listed for each of 40 sub-sectors (under the 8 industries/sectors that come under the Amber label), with thresholds aligned with 1.5 degrees C for each</li> <li>• For example, for iron &amp; steel: 3 listed, including blast furnace</li> </ul>	<ul style="list-style-type: none"> <li>• Any one of below</li> <li>• Moving towards green transition pathway (1.5°C) in a defined time frame</li> <li>• Facilitating significant emissions reductions with a prescribed sunset date</li> </ul>	Na	<ul style="list-style-type: none"> <li>• Na</li> </ul>

*Note: The analysis in the above table is based on the authors interpretation and review of the various initiatives evaluated. In order to facilitate a like for like comparison, terminology used to evaluate the various parameters may differ in certain instances from the original documentation.*



## Standard Setters/Coalitions

	Industry/Sector Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
<b>CBI</b>  <i>(White Paper Financing Credible Transitions, Sep 2020, Discussion Transition Finance for Transforming Companies, Sep 2022)</i>	<ul style="list-style-type: none"> <li>• 4 labels to classify economic activities by entities/activities               <ul style="list-style-type: none"> <li>- Near-zero (emissions)</li> <li>- Pathway to Zero</li> <li>- Interim</li> <li>- Stranded</li> </ul> </li> <li>• For entities: Transition label applicable to               <ul style="list-style-type: none"> <li>- Pathway to Zero</li> <li>- Interim</li> </ul> </li> <li>• For activities: Transition label applicable to               <ul style="list-style-type: none"> <li>- Pathway to Zero</li> <li>- Interim</li> <li>- Stranded</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Netzero by 2050 (in line with 1.5°C trajectory)</li> <li>• Science-based</li> <li>• Offset don't count: but should count upstream scope 3 emissions</li> <li>• Technology viability (over economic competitiveness)</li> <li>• Action not pledge: backed by operating metrics</li> </ul>	Transition plan, credible targets and metrics	<ul style="list-style-type: none"> <li>• Entity Level               <ul style="list-style-type: none"> <li>- Equity investments</li> <li>- General purpose debt</li> <li>- SLBs/SLLs</li> </ul> </li> <li>• Activities Level               <ul style="list-style-type: none"> <li>- Use of proceeds bonds/loans</li> </ul> </li> </ul>
<b>GFANZ</b>  <i>(Financial Institution Net-zero Transition Plans: Fundamentals, Recommendations, and Guidance, Nov 2020)</i>	<ul style="list-style-type: none"> <li>• Specifies 4 financing strategies that facilitate real economic transition               <ul style="list-style-type: none"> <li>- Climate Solutions</li> <li>- Aligned</li> <li>- Aligning</li> <li>- Managed Phaseout</li> </ul> </li> <li>• But does not go into specifying business/activities</li> </ul>	<ul style="list-style-type: none"> <li>• In line with achieving net-zero by 2050</li> <li>• 1.5°C aligned</li> <li>• Foundation, implementation strategy, engagement strategy, metrics, and targets</li> </ul>	Na	Na
<b>ICMA</b>	Na	<ul style="list-style-type: none"> <li>• 1.5°C/2.0°C aligned</li> <li>• Business model</li> </ul>	Na	<ul style="list-style-type: none"> <li>• Use of proceed instruments</li> </ul>

	Industry/Sector Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
(Climate Transition Finance Handbook: Guidance for Issuers, Sep 2023)		environmental materiality <ul style="list-style-type: none"> <li>• Climate transition strategy and targets to be science-based: aligned with the Paris Agreement</li> <li>• Implementation transparency, including annual disclosure of capex and opex plans</li> </ul>		<ul style="list-style-type: none"> <li>• General purpose sustainability-linked instruments (SLBs)</li> </ul>

Note: The analysis in the above table is based on the authors interpretation and review of the various initiatives evaluated. In order to facilitate a like for like comparison, terminology used to evaluate the various parameters may differ in certain instances from the original documentation.

## Institutions

	Industry	Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
<b>Barclays</b>  <a href="#">(Transition Finance Framework, Feb 2024)</a>	<ul style="list-style-type: none"> <li>• 11 listed</li> <li>• Agri, cement, chemicals, energy, power &amp; utility, real estate, metals, mining, aviation, ground transport, shipping</li> </ul>	<ul style="list-style-type: none"> <li>• 110+ listed</li> <li>• Examples include Carbon Capture, Utilization and Storage (CCUS), WTE, low carbon fuels</li> </ul>	<ul style="list-style-type: none"> <li>• Any one of below</li> <li>• 1.5°C /no overshoot benchmark global scenarios such as IEA NZE, IPCC, and PRI</li> <li>• Regional or national scenario pathways</li> <li>• Regional sustainable</li> </ul>	<ul style="list-style-type: none"> <li>• 90% of company revenues derived from transition framework activities</li> </ul>	<ul style="list-style-type: none"> <li>• Exclusions: M&amp;A, SLB, AUM, in ESG funds, Trading/market making, Liquid securities financing, derivatives</li> </ul>

	Industry	Activity/Process	Trajectory	Test for General Corporate Finance	Instruments
			and transition finance taxonomies (e.g. EU)		
<b>DBS</b>  <i>(Sustainable &amp; Transition Finance Framework &amp; Taxonomy, Mar 2022)</i>	<ul style="list-style-type: none"> <li>• 3 labels to classify economic activities of industries <ul style="list-style-type: none"> <li>- Green</li> <li>- Transition</li> <li>- UN SDG</li> </ul> </li> <li>• 11 listed under transition</li> <li>• Automotive, metals &amp; mining, food &amp; agri, O&amp;G, chemicals, power, infrastructure, shipping, aviation, telecom, logistics</li> </ul>	<ul style="list-style-type: none"> <li>• 40+ listed</li> <li>• Examples include pumped storage, bio-gas, CCUS</li> </ul>	<ul style="list-style-type: none"> <li>• All of below</li> <li>• 1.5°C/2.0°C aligned</li> <li>• Enables the wider application or integration of less carbon-intensive options</li> </ul>	<ul style="list-style-type: none"> <li>• Divestitures, diversification or decarbonization towards lower exposure to carbon intensity or emissions reductions</li> </ul>	<ul style="list-style-type: none"> <li>• All financial instruments</li> </ul>
<b>Standard Chartered</b>  <i>(Transition Finance Framework, 2021)</i>	<ul style="list-style-type: none"> <li>• 8 listed</li> <li>• Iron &amp; steel, railways, agri, aviation, cement, aluminium, shipping, other</li> </ul>	<ul style="list-style-type: none"> <li>• 75+ listed</li> <li>• Examples include CCUS, low emission fuels, material efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• All of below</li> <li>• 1.5°C aligned</li> <li>• Avoid lock-in of carbon-intensive asset</li> </ul>	<ul style="list-style-type: none"> <li>• 90% of company revenues derived from transition framework activities</li> </ul>	<ul style="list-style-type: none"> <li>• Asset as well as entity-based financing</li> </ul>

Note: The analysis in the above table is based on the authors interpretation and review of the various initiatives evaluated. In order to facilitate a like for like comparison, terminology used to evaluate the various parameters may differ in certain instances from the original documentation.

### Appendix 3: Financial Mechanisms and Instruments

Mechanism	Instrument	Type	Source	Description	Applicable existing examples
RD&D Funding	Grant	Financing	Public, Private	RD&D Funds (primarily grants) support low-carbon technology development during concept, prototype, and early demonstration stages.	Ministry of Steel (MoS) has set up Steel Development Fund (SDF) to fund up to INR 150 crore per year for R&D in the steel sector.
Venture Capital (VC) and Private Equity (PE)	Equity	Financing	Public, Private	VC/PE firms provide early-stage risk capital (primarily equity) to companies, mostly start-ups, that are not listed on the public stock exchange. This source of capital is not for steel companies themselves, rather, for startups that innovate and develop new low-carbon technologies.	A total of USUSD 53.7 billion of VC/PE capital was invested in climate-tech start-ups in 2021. Temasek, Breakthrough Energy Ventures, and Future Ventures have been major investors of this capital.
Viability Gap Funding (VGF)	Subsidy	Financing	Public	Viability gap funding or capex grants is the financial support provided by the government to projects that are not commercially viable but are justified because of their overall economic and development impact.	During 2015-17, GoI launched VGF scheme for solar projects, covering up to 30% of the project cost, or INR 2.5 crore per MW.
Project Preparatory / Technical Assistance Facility	Grant, Equity	Financing, De-risking	Public	PPF/ TA facilities provide grant funding to decarbonization projects to defray the costs related to project preparatory activities and enable the projects to become investment ready.	US India Clean Energy Finance (USICEF): a USUSD 20 million facility that supports projects in distributed solar space and helps them scale into viable projects.
Development Equity	Equity	Financing	Public, Private	Development equity funds support early-stage ventures by providing project development assistance and early-stage risk capital, to scale and	IFC Infra Ventures: a USD150 million global infrastructure project development fund that combines

				raise debt financing, at which stage, the capital will be converted into an equity position in the project.	early-stage risk capital and project development support.
Blended Equity, Debt	Concessional equity, debt	Financing	Public, Private	Blended finance structures blend concessional capital from lenders and investors to lower the overall cost of capital for projects faced with unviability at commercial rates.	Tata Cleantech – GCF credit line: a USUSD 200 million blended debt financing facility for solar rooftop segment.
Carbon Finance	Carbon credits	Financing	Public, Private	Carbon finance is an innovative financial intervention that allows the flow of capital from emissions-intensive projects to projects that abate emissions, through the trading of carbon credits.	International Voluntary Carbon Markets: allow carbon emitters to help offset their emissions by purchasing carbon credits generated by low-carbon projects.
Contract for Difference (CfD)	Subsidy	Financing, De-risking	Public	A project-based CfD is a bilateral contract between the government/government-owned entity and a low-carbon project that covers the incremental cost of production compared with conventional technology. The low-carbon project would receive payments equal to the difference in the levelized cost of production, using a low-carbon technology versus the 'market price' of steel produced using conventional technologies. A CfD can also apply to carbon price.	-
Sustainability-Linked Bonds (SLBs)	Debt	Financing	Private	SLBs are bonds where the proceeds of issuance are not defined, and the borrower can use the funding as they see fit while committing to achieve defined sustainability targets within a given timeframe. The characteristics of these bonds, like coupon rate, changes, based on performance of the defined targets.	Ultratech Cement raised USUSD 400 million through India's first SLB issuance. JSW Steel raised USUSD 1 billion through SLBs.



Transition Finance (loans/bonds)	Debt	Financing	Private	Financing intended for economic activities that are emissions-intensive, do not have a viable green (near-zero emissions) substitute but are important for socio-economic development. The use of proceeds of transition finance instruments is defined. The borrower must use the proceeds towards transition activities.	-
Credit Guarantees	Guarantee	De-risking	Public, private	Credit guarantees would work as a bilateral agreement between the guarantor (sovereign or FI) and lending institutions (banks/ FIs) for risk-sharing in case of delay/default in debt servicing, wherein the guarantor reimburses the lending institution/s for a portion of the losses incurred due to payment default by the borrower.	Partial Risk Sharing Facility (PRSF): a USUSD 43 million facility under which partial credit guarantees are provided to cover a share of default risk faced by FIs in extending loans to energy efficiency projects implemented through Energy Service Company (ESCOs).
Credit Enhancement	Guarantee	De-risking	Public, Private	Credit enhancement mechanisms support decarbonization projects in accessing capital markets through issuance of credit-enhanced bonds to domestic and international investors. The facility would lower the cost of credit enhancement and unlock the flow of capital from the bond market.	-
Credit Insurance	Insurance	De-risking	Private	Credit insurance is a risk management tool that covers the insured against the risk of outstanding receivables.	All general insurance companies have a credit insurance product for trading companies.